<u>What is claimed is</u>:

1. A free-standing article comprising low resistivity silicon carbide having an electrical resistivity of less than 0.10 ohm-cm.
2. The free-standing article of claim 1, wherein the electrical resistivity of the low resistivity silicon carbide is from about 0.005 ohm-cm to about 0.05 ohm-cm.
3. The free-standing article of claim 1, wherein the low resistivity silicon carbide is opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm at a temperature of at least about 250° C.
4. The free-standing article of claim 3, wherein the low resistivity silicon carbide is opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm at a temperature of from at least about 250° C to about 1450° C.
5. The free-standing article of claim 1, wherein the low resistivity silicon carbide is opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm at a temperature of from about 300 ° C to about 1250° C.
6. The free-standing article of claim 3, wherein the low resistivity silicon carbide is opaque to light in a wavelength range of from about 0.7 μm to about 0.95 μm.
7. The free-standing article of claim1, wherein the low resistivity silicon carbide has a nitrogen content of greater than $1.5x10^{19}$ atoms/cm^3.
8. The free-standing article of claim 7, wherein the low resistivity silicon carbide has a nitrogen content of from about $2x10^{19}$ atoms/cm^3 to about $3x10^{19}$ atoms/cm^3.
9. The free-standing article of claim 1, wherein the free-standing article is an edge ring or a susceptor ring, a wafer boat, epi susceptors, electrodes, heating elements, plasma etch components, and the like.
10. The free-standing article of claim 9, wherein the plasma etch components comprise gas diffusion plates, focused rings, plasma screens, or plasma chamber walls.
11. An edge ring comprising low resistivity silicon carbide having an electrical resisitivity of less than 0.10 ohm-cm, the edge ring comprises a circular main ring component that terminates at an outer surface with a support flange and terminates at an inner surface with a flange that is continuous with a wafer holding flange, the wafer holding flange terminates to define a center void.

12. The edge ring of claim 11, wherein the low resistivity silicon carbide has an electrical resistivity of from about 0.005 ohm-cm to about 0.05 ohm-cm.
13. The edge ring of claim 11, wherein the low resistivity silicon carbide is opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm at a temperature of at least about 250° C.
14. The edge ring of claim 13, wherein low resistivity silicon carbide is opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm at a temperature of from at least about 250° C to about 1450° C.
15. The edge ring of claim 14, wherein the low resistivity silicon carbide is opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm at a temperature of from about 300° C to about 1250° C.
16. The edge ring of claim 13, wherein the low resistivity silicon carbide is opaque to light from about 0.7 μm to about 0.95 μm.
17. The edge ring of claim 11, wherein the edge ring has a thickness of from about 0.1 mm to about 1.0 mm.
18. The edge ring of claim 17, wherein the edge ring has a thickness of from about 0.25 mm to about 0.5 mm.
19. The edge ring of claim 11, further comprising a semi-conductor wafer resting on the wafer holding flange.
20. A method of making a low resistivity silicon carbide article comprising reacting silicon carbide precursors in a nitrogen atmosphere to form low resistivity silicon carbide, and depositing the low resistivity silicon carbide on a substrate.
21. The method of claim 20, wherein the nitrogen atmosphere is greater than 32% by volume of nitrogen.
22. The method of claim 21, wherein the nitrogen atmosphere comprises about 45% by volume to about 50% by volume of nitrogen.
23. The method of claim 26, wherein the low resistivity silicon carbide comprises greater than 1.5×10^{19} atoms of nitrogen/cm^3.
24. The method of claim 23, wherein the low resistivity silicon carbide contains from about 2×10^{19} atoms of nitrogen/cm^3 to about 3×10^{19} atoms of nitrogen/cm^3.
25. The method of claim 20, wherein the low resistivity silicon carbide has an electrical resistivity of less than 0.1 ohm-cm.

26. The method of claim 25, wherein the low resistivity silicon carbide has an electrical resistivity of from about 0.005 ohm-cm to about 0.05 ohm-cm.
27. The method of claim 20, wherein the low resistivity silicon carbide is prepared by chemical vapor deposition.
28. The method of claim 27, wherein a partial pressure of nitrogen in a chemical vapor deposition chamber is from about 80 torr to about 110 torr.
29. The method of claim 28, wherein the partial pressure of nitrogen in the chemical vapor deposition chamber is from about 90 torr to about 105 torr.
30. The method of claim 20, wherein the nitrogen is provided as nitrogen gas, volatile organic compounds containing $-NO_2$, amine groups, quaternary amines, compounds of $-N(H)_4^+$, aqueous $-NO_3^-$ salts, halogenated nitrogen compounds, NH_3 or mixtures thereof.
31. The method of claim 30, wherein the nitrogen is provided as NF_3.
32. The method of claim 20, further comprising exposing the low resistivity silicon carbide to a temperature of at least about 250° C to provide a low resistivity silicon carbide opaque at a light wavelength of from about 0.1 μm to about 1.0 μm.
33. The method of claim 32, wherein the low resistivity silicon carbide is exposed to a temperature of from at least about 250° C to about 1450° C to provide a low resistivity silicon carbide opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm.
34. The method of claim 33, wherein the low resistivity silicon carbide is exposed to a temperature of from about 300° C to about 1250° C to provide a low resistivity silicon carbide opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm.
35. The method of claim 32, wherein the low resistivity silicon carbide is opaque to light at a wavelength of from about 0.7 μm to about 0.95 μm.
36. A method of making an opaque low resistivity silicon carbide article by chemical vapor deposition comprising providing silicon carbide precursor methyltrichlorosilane and hydrogen gas in an atmosphere of nitrogen gas at a partial pressure of from about 90 torr to about 105 torr; providing a reaction chamber temperature of from about 1250° C to about 1400° C; reacting methyltrichlorosilane and nitrogen gas to form a low resitivity silicon carbide deposit on a mandrel, the low resistivity silicon carbide has an electrical resistivity of from about 0.005 ohm-cm to about 0.05 ohm-cm; and exposing the low resistivity silicon

carbide to a temperature of at least about 250° C to provide a low resistivity silicon carbide opaque to light at a wavelength of from about 0.1 μm to about 1.0 μm.

37. The method of claim 36, wherein the opaque low resistivity silicon carbide comprises from about $2x10^{19}$ atoms of nitrogen/cm^3 to about $3x10^{19}$ atoms of nitrogen/cm^3.

38. The method of claim 36, wherein the low resistivity silicon carbide article is exposed to a temperature of at least about 250° C in an RTP chamber.

39. The method of claim 38, wherein the low resistivity silicon carbide article is an edge ring or susceptor ring.

40. The method of claim 39, wherein the edge ring or susceptor ring contains a semi-conductor wafer.